



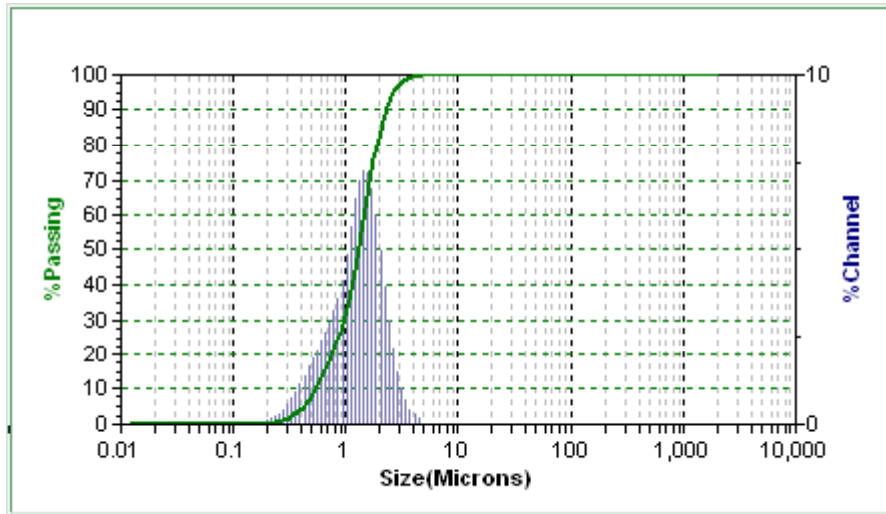
Size Distributions and Characterization of Native and Ground Samples for Toxicology studies

David S. McKay
Larry A. Taylor
Bonnie L. Cooper
Geology Team

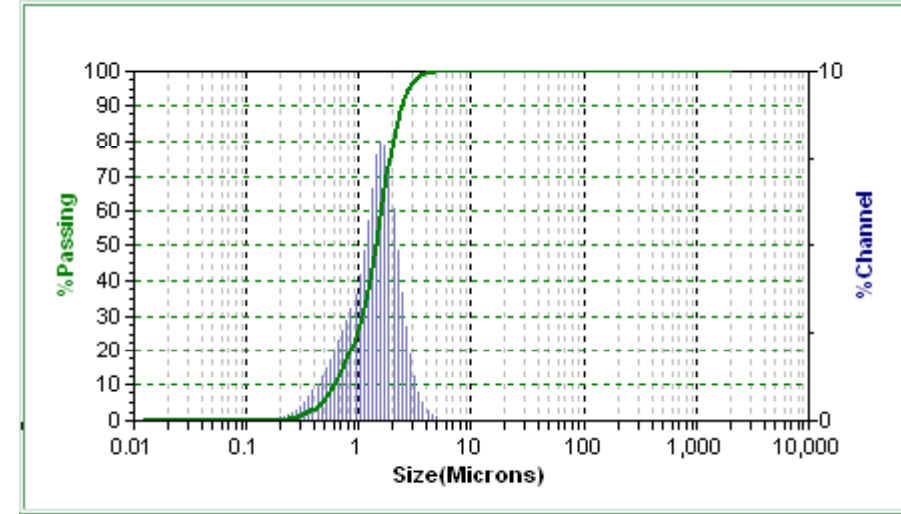


Natural and Ground Dusts

Particle Size Distribution

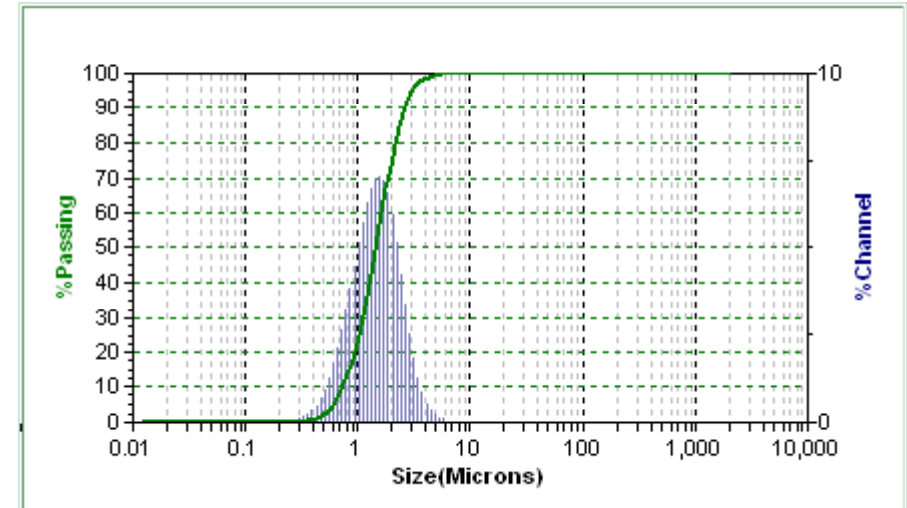


Jet-Mill-Ground, then separated: (Rec. # 1741)
Median = 1.300 μm ; St. Dev = 0.673



Ball-Mill-Ground, then separated: (Rec. # 1737)
Median = 1.427 μm ; St.Dev. = 0.689 (IPA)

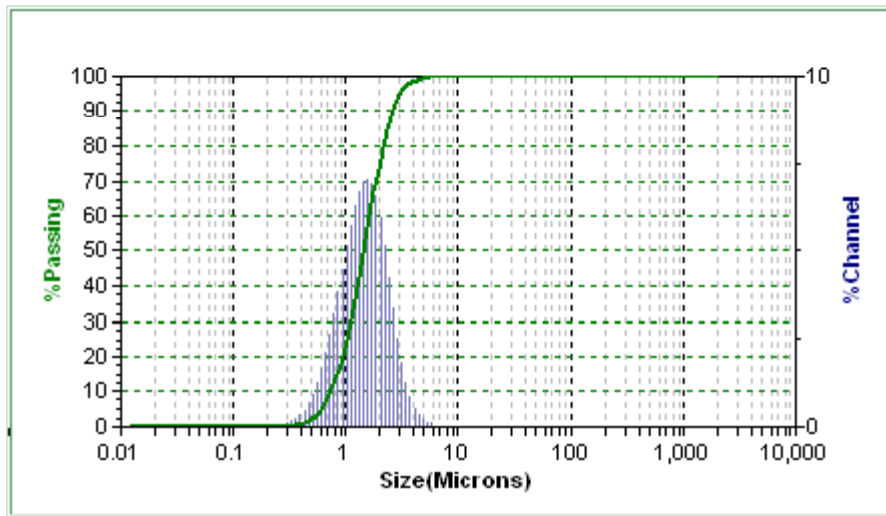
Natural Dust: (Rec. # 675)
Median = 1.448 μm ; St. Dev = 0.717



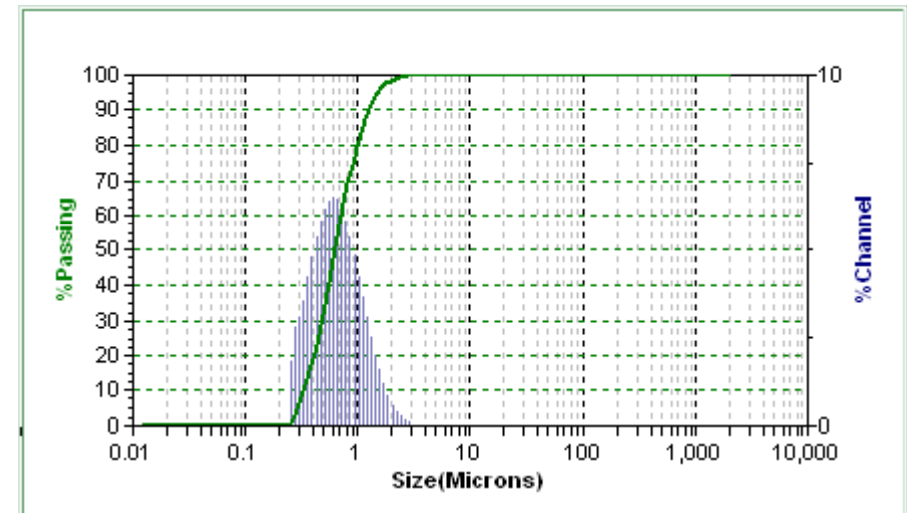


Natural Dust

Volume Distribution versus Number Distribution



Volume Distribution
Median = 1.448 μm ; St. Dev = 0.717

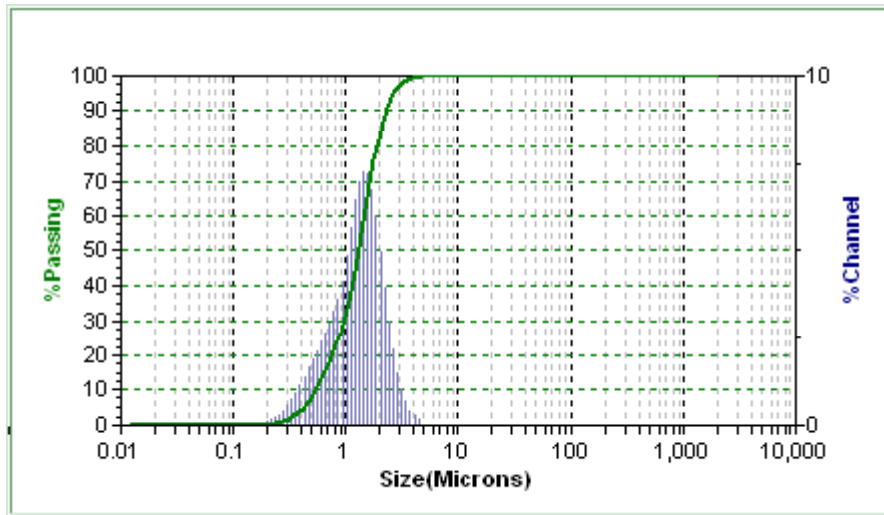


Number Distribution
Median = 0.625 μm ; St. Dev = 0.347

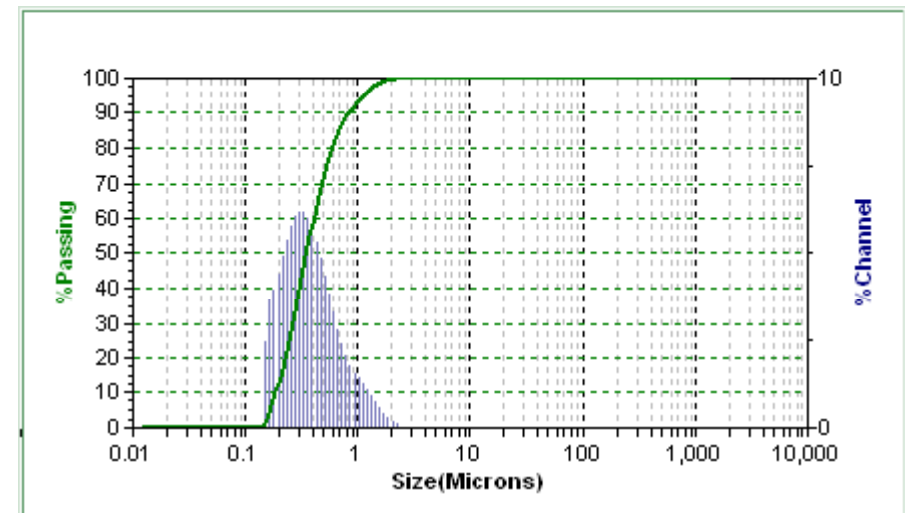


Jet-Mill-Ground Dust

Volume Distribution versus Number Distribution



Volume Distribution:
Median = 1.300 μm ; St. Dev = 0.673

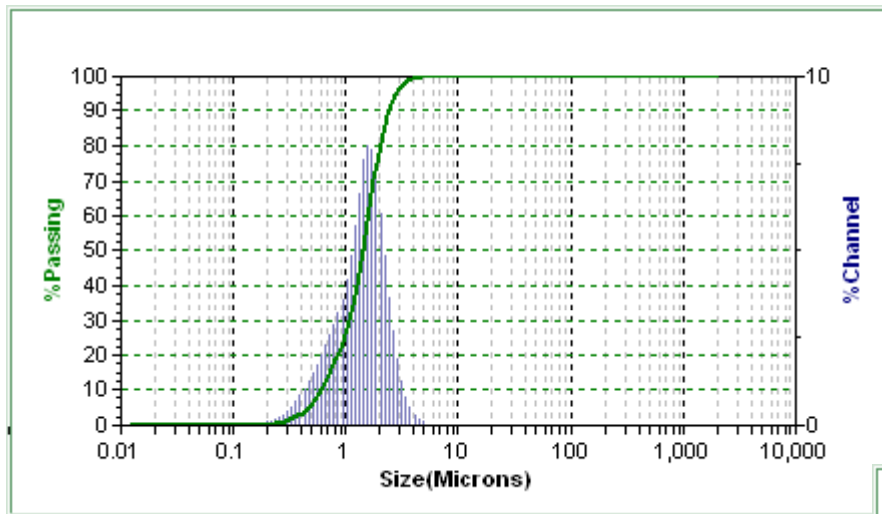


Number Distribution:
Median = 0.349 μm ; St.Dev. = 0.225

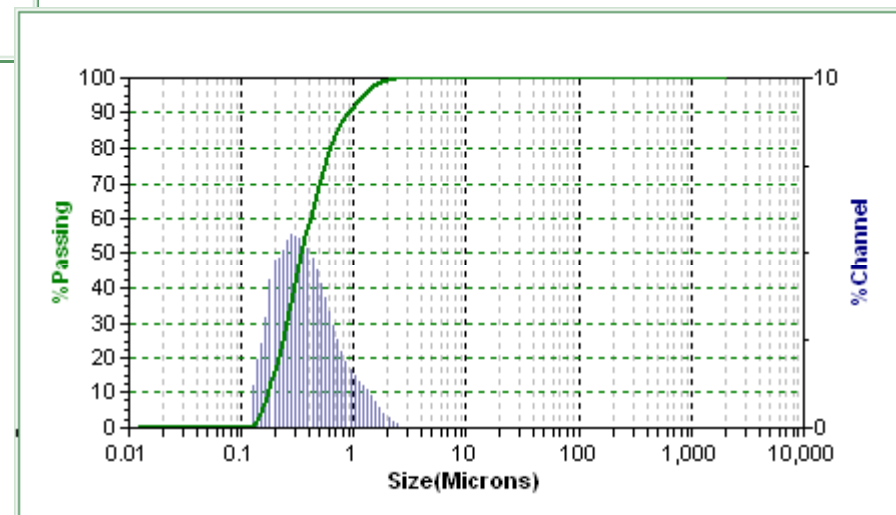


Ball-Mill-Ground Dust

Volume Distribution versus Number Distribution



Volume Distribution
Median = $1.427\mu\text{m}$; St.Dev. = 0.689



Number Distribution:
Median = $0.347\mu\text{m}$; St.Dev. = 0.252



Dust Comparison

	Volumetric Median	Volumetric Std. Dev.	Number Median	Number Std. Dev.	Comparison
Natural Dust	1.448	0.717	0.625	0.347	Medium
Ball-Mill-Ground Dust	1.485	0.689	0.347	0.252	Most Values Lower
Jet-Mill-Ground Dust	1.300	0.673	0.349	0.225	All Values Lower